



69/12/05

ZFW
AP\$

EXPRESS MAIL LABEL NO. EV 710327465 US

PATENT APPLICATION
Docket No. 7678.545.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES

In re application of)
)
	Dan E. Fischer)
)
Serial No.	10/068,788) Art Unit
) 3732
Confirmation No.	8136)
)
Filed	February 5, 2002)
)
For	FIBER-COVERED DENTAL DELIVERY INSTRUMENTS)
)
Examiner	Melba N. Bumgarner)
)
Customer No.:	022913)

APPEAL BRIEF

Mail Stop Appeal Briefs - Patent
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellant Dan E. Fischer, D.D.S., previously filed a timely Notice of Appeal from the action of the Primary Examiner in finally rejecting all of the claims in this application. This Appeal Brief is being filed under the provisions of 35 U.S.C. § 134(a) and 37 C.F.R. § 41.37.

09/13/2005 HAHMED1 00000014 10068788

01 FC:1402

500.00 OP

REAL PARTY IN INTEREST

Ultradent Products, Inc. is the real party in interest, as evidenced by the Assignment recorded at Reel 012718, Frames 0495 – 0499.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

Pending claims: 1-11, 13-19, 21-24 and 26-43.

Rejected claims: 1-11, 13-19, 21-24 and 26-43.

Allowed claims: none.

Appealed claims: 1-11, 13-19, 21-24 and 26-43.

STATUS OF AMENDMENTS

None filed after Final Rejection.

SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1 describes a dental delivery tool sized and configured for delivery of a dental composition into a dental preparation. Application, p. 9, ll. 1-4. The delivery tool 250a includes a hollow body 280 having a proximal receiving end 282, a distal delivery end 252a terminating with an exit (or outlet) orifice, and a plurality of fibers 254a coupled to at least a portion of the hollow body 280. *Id.* at p. 45, ll. 3-23; Figures 34A-C, 35. The distal delivery end 252a terminates with a distal rim 256a which surrounds the exit orifice. *Id.* at p. 45, l. 11; Figures 34A-C.

The fibers 254a have first ends coupled to the hollow body 280 and second ends extending laterally away from the hollow body 280 (*e.g.*, as may result when elongate fibers are attached by electrostatic flocking). *Id.* at p. 45, 15-16; Figures 34A-C, 35. Because the fibers 254a have identifiable first and second ends (as opposed to tightly coiled or tufted fibers like wool), they have identifiable and measurable lengths, which fall within a range of about 0.2 mm to about 5 mm. *Id.* at p. 49, ll. 21-22. Such fibers 254a also have identifiable and measurable diameters, which fall within a range of about 1 Denier to about 15 Denier, which makes them

especially useful for delivering lower viscosity materials, such as sealing agents, onto a tooth surface. *Id.* at p. 49, ll. 23-26.

In addition to the foregoing lengths and diameters defining fibers 254a, a portion of the fibers 254a extend a length “L” distally beyond the distal rim 256a surrounding the exit orifice at the end of the distal delivery end 252a, and a portion of fibers 254a are coupled along the body wall of the hollow body 280 a distance “D” proximally with respect to the distal rim 256a, wherein the distance “D” is at least about three times greater than the length “L”. *Id.* at p. 48, ll. 10-17. Length “L” is in a range of about 0.2 mm to about 5 mm, which is inherent in the embodiment where fibers having a length between about 0.2 mm to about 5 mm are attached to and extend perpendicularly from the distal rim 256a. *Id.* at p. 47, ll. 6-8; 34A-34C. Providing fibers that both extend beyond the distal rim 256a and up the hollow body 280 within the claimed length “L” and distance “D” parameters yields a delivery tip that allows for ready delivery and brushing of a dental composition both at the most remote point within a formed tooth cavity and along the interior walls of the cavity. *Id.* at p. 48, l. 24 – p. 49, l. 2. Delivery designs that do not feature wall-mounted fibers 254a extending a distance “D” along the outer wall of the hollow body 280 as claimed must be awkwardly maneuvered in order to enable the fibers to adequately touch the interior walls of a dental cavity in a manner so as to coat the walls with the dental composition. *Id.* at p. 9, ll. 21-24.

Claim 15 is similar to claim 1, but claims fibers 254a having a length in a range of about 0.3 mm to about 5 mm and a diameter in a range of about 3 Denier to about 75 Denier, and wherein length “L” is in a range about 0.3 mm to about 5 mm. *Id.* at p. 32, ll. 21-22; p. 33, ll. 4-5; p. 50, ll. 1-5. Fibers having a thickness within the parameters of claim 15 are especially useful when applying higher viscosity materials such as impression materials (*e.g.*, to remove bubbles therefrom during application). *Id.* at p. 33, ll. 6-7; p. 50, ll. 6-7.

Claim 23 recites a method of manufacturing a dental delivery tool similar to those of claims 1 and 15. The features associated with claim 23 have therefore already been discussed above.

Claim 43 is similar to claim 1, but is limited to a dental delivery tool in which at least a portion of the hollow body is “rigid”. *Id.* at p. 6, l. 10; p. 53, ll. 16-17. Providing a hollow body that is rigid rather than flexible facilitates brushing viscous dental compositions onto the side wall of a dental preparation and helps to ensure complete coverage of the tooth surface.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 1-11, 13-19, 21-24 and 26-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US 6,059,570 to Dragan et al. ("*Dragan*") in view of US 5,829,976 to Green ("*Green*"). *Dragan* generally discloses a delivery tool having a hollow body to which fibers are attached, but does not show fibers that extend a length "L" beyond a rim and a distance "D" up the hollow body, wherein the distance "D" is at least about three times the length "L". It is alleged that this ratio would have been obvious in light of *Green*, which shows wool-like "tufted" fibers attached to an interproximal dental brush. The other claimed features of fiber length, diameter, length "L" and distance "D" are not alleged to be found in any art reference but were deemed to be "an obvious matter of design choice", premised on the assertion that such features are not "critical to the claimed invention".

2. Claims 1-11, 13-19, 21-24 and 26-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Dragan* in view of *Green*, and further in view of US 4,922,936 of Buzzzi et al. ("*Buzzi*"). This rejection is essentially the same as the first rejection, except that the Office Action further relies on *Buzzi*, which discloses a toothpick-like dental cleaner having fibers thereon, to provide the missing dimensions of fiber length and diameter not disclosed in either *Dragan* or *Green*.

ARGUMENT

I. INCORPORATION OF PREVIOUS ARGUMENTS

Appellant incorporates by reference the arguments in support of patentability set forth in Amendment "C" and Response filed December 10, 2004, Amendment "B" and Response filed May 27, 2004, and Amendment "A" and Response filed January 13, 2004.

II. THE OFFICE ACTION FAILS TO STATE A *PRIMA FACIE* CASE OF OBVIOUSNESS RELATIVE TO CLAIMS 1-11, 13-19, 21-24 AND 26-43 WHEN REJECTING THE CLAIMS OVER *DRAGAN* AND *GREEN* BECAUSE IT FAILS TO SHOW WHERE EVERY CLAIM ELEMENT IS TAUGHT OR SUGGESTED IN THE PRIOR ART

When rejecting claims 1-11, 13-19, 21-24 and 26-43 as being unpatentable over *Dragan* and *Green*, the Office Action fails to state a *prima facie* case of obviousness because it fails to show where the combined teachings of the applied art teach or suggest every limitation recited in the claims. See MPEP § 2143. The Office Action fails to identify any teaching in the art for the

specific length and diameter ranges for the fibers set forth in the claims. It also fails to show how the combined teachings of *Dragan* and *Green* teach or suggest fibers that extend a length "L" distally beyond the rim of the hollow body the claimed amount, that are coupled along the body wall a distance "D" proximally with respect to the rim, and wherein the distance "D" is at least about three times greater than the length "L"

A. The Office Action Fails To Show Where the Claimed Fiber Length and Diameter Ranges are Taught in the Prior Art

According to the MPEP, "[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP § 2143 (emphasis added); see MPEP § 2143.03; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

The independent claims each recite a fiber length range and a fiber diameter range (*e.g.*, claim 1 recites a delivery tool comprising fibers that have a length in a range of about 0.2 mm to about 5 mm and a diameter in a range of about 1 Denier to about 15 Denier). The Office Action fails to state a *prima facie* case of obviousness relative to the claims because it fails to show where the specific fiber length and diameter ranges found in each of the independent claims are taught in the art. Rather than identifying any teaching in the art that shows the desirability of providing fibers within the claimed length and diameter ranges, the Office Action merely provides the hand waving argument that such features "would have been an obvious matter of choice to one of ordinary skill in the art". Office Action, p. 3. Because the Office Action provides no support in the prior art for the assertion that the claimed length and diameter ranges would have been obvious, the Office Action fails to comply with the requirements articulated in MPEP §§ 2143 and 2143.03 and by the CCPA *In re Royka*.

Although MPEP § 2144.03 provides for "Reliance on Common Knowledge in the Art or 'Well Known' Prior Art", that exception does not apply to the claims at issue. "Official notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. While 'official notice' may be relied on, these circumstances should be rare when an application is under final rejection. . . ." MPEP § 2144.03(A) (emphasis added).

Because the claims at issue are under final rejection, reliance on what is “well known” is presumptively inappropriate.

This is especially true, as here, where the different diameter ranges recited in the claims yield devices that provide different advantages and functionality. As discussed above, fibers within the smaller diameter range recited in claim 1, for example, are especially well suited for applying low viscous materials such as sealing agents. Application, p. 49, ll. 23-26. On the other hand, fibers within the larger diameter range recited in claim 15, for example, are better suited for working with higher viscosity materials such as impression materials. *Id.* at p. 33, ll. 6-7; p. 50, ll. 6-7. The Office Action provides no evidence whatsoever that such features and advantages were so obviously well known at the time of the invention as to be an obvious matter of design choice. “Official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well known.” MPEP § 2144.03(A) (emphasis added). Because there is nothing that would indicate that knowledge concerning the desirable fiber length and diameter ranges is “capable of instant and unquestionable demonstration as being well known” with respect to the endodontic irrigator of *Dragan*, Appellant submits that reliance by the Office Action on the exception contained in MPEP § 2144.03 is inappropriate for this reason alone. Appellant also challenges the assertion that the claimed length and diameter ranges “would have been an obvious matter of choice to one of ordinary skill in the art”.

Moreover, “[i]f official notice is taken of a fact, unsupported by documentary evidence, the technical line of reasoning underlying a decision to take such notice must be clear and unmistakable”. MPEP § 2144.03(B). In the present case, however, the Office Action provides no technical line of reasoning whatsoever, let alone that is “clear and unmistakable”. Instead, the Office Action rests on the unsupported premise that the claimed features “are not disclosed as critical to the claimed invention”. Such a basis for taking official notice neither constitutes technical reasoning nor any other basis provided for in MPEP § 2144.03.

Finally, Appellant disputes the assertion that the claimed length and diameter ranges are not “critical to the claimed invention”. As clearly set forth in the specification, such ranges are “preferred” (*i.e.*, more desirable). *See, e.g.*, Application, p. 49, ll. 21-26. Identifying a claimed feature as “preferred” means that the claimed feature subjectively provides a benefit or advantage identified by the inventor as more desirable compared to a non-claimed and non-

preferred feature. Of course, whenever a claim is amended to recite a feature previously not claimed but disclosed in the specification as being “preferred”, that feature becomes “critical” to the claimed invention by definition. In view of the foregoing, Appellant specifically challenges the assertion by the Office Action that the claimed length and diameter ranges are not “critical to the claimed invention” (emphasis added).

Because Appellant has challenged the factual assertion that the claimed length and diameter ranges are an obvious matter of design choice, and also the assertion that such features are not critical to the claimed invention, “the Examiner must support the finding with adequate evidence”. MPEP § 2144.03(C). Such evidence is supposed to be provided, according to the MPEP, “in the next Office action if the rejection is to be maintained”. *Id.* (“If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanations to support the finding.”) Of course, because the current Office Action is a final rejection, there can be no “next Office action” unless the PTO re-opens prosecution.

In summary, Appellant respectfully submits that it was inappropriate to rely on common knowledge to finally reject the claims under the circumstances and that the only way to remedy this procedural error is to either (i) re-open prosecution so as to provide the required evidentiary showing required by MPEP § 2144.03(C) or (ii) allow the claims in the event such evidence is not available.

B. The Office Action Fails To Show Where the Claimed Length “L” is Taught in the Prior Art

The independent claims each recite a specific range for the length “L” that the fibers extend distally beyond the rim at the distal end of the hollow body. The Office Action fails to state a *prima facie* case of obviousness relative to the claims because it fails to show where the specific ranges for the length “L” found in each of the independent claims are taught in the art. Rather than identifying any teaching in the art that shows the desirability of providing a delivery tool having fibers that extend beyond the rim the claimed length “L”, the Office Action simply concludes, without providing any evidence, that such features “would have been an obvious matter of choice to one of ordinary skill in the art”. Office Action, p. 3. For the same reasons given above with respect the claimed fiber length and diameter ranges, the Office Action fails to

comply with the requirements articulated in MPEP §§ 2143 and 2143.03 and by the CCPA *In re Royka* relative to the claimed length “L”.

Moreover, Appellant challenges the assertion in the Office Action that this feature is not critical to the claimed invention or that it would have been well known or of common knowledge. There is a reason why the specification identifies certain fiber lengths as being “preferred” and also a delivery device having fibers which extend perpendicularly from the rim, as in Figures 34A-C or page 47, lines 6-8 of the application (which inherently yields fibers that extend beyond the rim the claimed length “L”). Such teachings were not placed in the application randomly, by mere happenstance, or for no reason. Rather, they were included in the application because they provide desired benefits relative to the application of dental compositions to a tooth surface. Because the Appellant has formally challenged the assertion that the claimed range for the length “L” would be an obvious matter of design choice, the examiner is now obligated under MPEP § 2144.03(C) to provide evidence in the “next Office action” (*i.e.*, by re-opening prosecution). If no such evidence is forthcoming, Appellant alternatively requests allowance of the claims.

C. The Office Action Fails To Show Where the Combined Teachings of *Dragan* and *Green* Teach or Suggest that the Distance “D” is at Least Three Times Greater than the Length “L” as Claimed

Independent claims 1, 15, 23 and 43 were written or amended to emphasize the specific structural and spatial relationships between the fibers that extend a length “L” beyond the rim and the fibers that are coupled a distance “D” along the wall. Since the “rim” forms a necessary endpoint for each of length “L” and distance “D”, precisely defining its position and orientation is necessary before one is able to define what is meant by the “length ‘L’” and the “distance ‘D’”. Being able to accurately measure the length “L” and the distance “D” is, in turn, a necessary precondition to determining the ratio of distance “D” to length “L”

The Office Action admits that *Dragan* fails to teach or suggest the minimum ratio of distance “D” to length “L” recited in the claims. Consequently, the Office Action relies on *Green*, particularly Figure 2, and asserts that “Green teaches a dental delivery tool wherein the distance a “D” [*sic*] is at least three times than a length “L” as a length [*sic*] at the exit orifice (figure 2)”. Office Action, p. 2. In response, Appellant submits that *Green* teaches no such thing. Even assuming for the sake of argument that one of skill in the art would have been

motivated to combine *Dragan* and *Green*, *Green* fails to disclose any length “L” or distance “D”, as those terms are defined in the claims at issue from which a ratio of distance “D” to length “L” can be ascertained.

The reason *Green* fails to disclose any identifiable length “L” or distance “D” is because there is no structure in the device shown in Figure 2 of *Green* corresponding to the claimed “rim” structure of the appealed claims. As recited in each of the independent claims of the present application, the “rim” is the structure that surrounds the “exit orifice” terminating the “distal delivery end”. Further, the “hollow body” has “a body wall extending between the rim at the distal delivery end and the proximal receiving end”, which means that the rim is at the distal end of the hollow body, not somewhere between the distal and proximal ends. Finally, the “rim” is “oriented laterally relative to the body wall” (*i.e.*, is not the body wall itself). That means that a hole through a side, rather than the distal end, of the body wall cannot be surrounded by a “rim” as that term is defined in each of the independent claims. Hence, a delivery device having an exit orifice through a side of the body wall, but not at a distal end of the hollow body, cannot have a “rim” as that term is defined in the independent claims. Without a “rim” there is no way to measure the length “L” or the distance “D”. If the length “L” and distance “D” cannot be measured, the ratio of the distance “D” to the length “L” cannot be ascertained.

It is clear that the device shown in Figure 2 of *Green* lacks structure corresponding to the “rim” feature recited in the independent claims on appeal. That is because the *Green* device does not have “a distal delivery end terminating with an exit orifice and a rim that surrounds the exit orifice” (emphasis added). Instead, the *Green* device includes a hole 26 that clearly passes through a side of the applicator tip 20, not the distal end. The hole 26 does not meet the claimed “exit orifice” limitation because it lacks the specific structural relationship relative to the hollow body. Since the claimed “rim” feature surrounds the “exit orifice”, but because the *Green* device lacks an “exit orifice” (*i.e.*, because it lacks any structure having the specific structural relationship to the hollow body required by the appealed claims), it follows that the *Green* device also lacks a “rim” feature for this reason alone.

Moreover, the claimed “rim” feature is further defined as “being oriented laterally relative to the body wall”. As clearly shown in Figures 34A-C and 35, the distal rim 256a has a surface that is perpendicular to the body wall of the distal delivery end 252a of the hollow body

280. If the hollow body 280 instead included a lateral opening positioned through the body wall of hollow body 280 rather than at the end of distal delivery end 252a, there could be no “rim” because there would be no structure “oriented laterally relative to the body wall”. That is because the structure surrounding the lateral opening would be the body wall itself.

The only structure of the *Green* device that is “oriented laterally relative to the body wall” is the circular or oval side surface of the body wall forming a wall around the interior of the opening 26. However, the side surface surrounding opening 26 does not correspond to the claimed “rim” feature since the claims recite a “rim” that “surrounds the exit orifice” that “terminat[es]” the “distal delivery end”. Because the delivery tip 20 shown in Figure 2 of *Green* does not “terminat[e] with an exit orifice and a rim that surrounds the exit orifice” as recited in the claims, the side surface of the body wall surrounding opening 26 cannot meet the structural requirements of the “rim” feature as recited in the appealed claims.

In short, because the *Green* device lacks a “rim” there is no way to measure a length “L” or a distance “D”. Without being able to measure any length “L” or any distance “D”, it is impossible to ascertain a ratio between distance “D” and length “L”. As a result, even if one of skill in the art were to attempt to combine *Dragan* and *Green*, the combined teachings of these references would neither teach nor suggest the specific minimum ratio of distance “D” to length “L” recited in the appealed claims. Moreover, arbitrarily assigning values to the distance “D” and the length “L”, rather than measuring them in relation to the “rim” recited in each of claims 1, 15, 23 and 43, would clearly be improper and constitute improper hindsight, using the current application as a guide.

III. THE OFFICE ACTION FAILS TO STATE A PRIMA FACIE CASE OF OBVIOUSNESS RELATIVE TO CLAIMS 1-11, 13-19, 21-24 AND 26-43 BECAUSE IT FAILS TO PROVIDE ANY TEACHING OR SUGGESTION IN THE ART THAT WOULD HAVE MOTIVATED ONE OF SKILL IN THE ART TO COMBINE DRAGAN AND GREEN

According to MPEP § 2143, “[t]he teaching or suggestion to make the claimed combination . . . must . . . be found in the prior art, not in applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).” Appellant has reviewed the Office Action in exhaustive detail and can find no allegation of any motivation in the prior art to combine the references. The Office Action merely provides the unsupported and self-serving statement that “[i]t would have been obvious to one of ordinary skill in the art at the time the invention was

made to have the distance ‘D’ of Dragan et al. at least about three times greater than the length ‘L’ in order to enable site-specific application of the composition as well as penetration and scrub to the dental preparation in view of Green.” Office Action, pp. 2-3. However, the Office Action provides no citation to any teaching in *Dragan*, *Green* or any other prior art reference for the proposition that providing the claimed ratio of distance “D” to length “L” would “enable site-specific application of the composition as well as penetration and scrub to the dental preparation”.

In fact, Appellants submit that the ratio of distance “D” to length “L” is a result-effective variable that was not understood by either *Dragan* or *Green*. Providing a dental delivery tool having fibers positioned in such a way as to comply with the claimed minimum ratio of distance “D” to length “L” provides enhanced benefits that were not recognized or appreciated in the prior art. As clearly stated in the Application at page 9, lines 21-24, “other delivery designs that do not feature such wall-mounted fibers extending such a distance ‘D’ along the outer wall must be awkwardly maneuvered in order to enable the fibers to adequately touch the interior walls in a manner so as to coat the walls [of the cavity] with the dental composition.”

Moreover, *Green* discloses an “interproximal brush”, not a delivery device for introducing dental compositions into a dental preparation. The term “interproximal brush” means a device that is intended to be forced into the interproximal spaces between individual teeth and into periodontal pockets, like a toothpick or other cleaning probe. As clearly stated in the Office Action, the relevant device of *Dragan* used to reject the claims is an “endodontic irrigator, comprising a diameter that is capable of fitting within a root canal (column 4 line 65)”. Office Action, p. 3. An “endodontic irrigator” is a narrow gauge cannula that is placed into a root canal during an endodontic procedure and used to irrigate (*i.e.*, wash) the root canal. That is quite different from the “interproximal brush” disclosed in *Green*. One of skill in the art would not have been motivated to modify the “endodontic irrigator” of *Dragan* to have features associated with the “interproximal brush” of *Green*. The two devices perform entirely different functions and have specific features that are required for each respective purpose. Combining the features of each reference willy-nilly would likely diminish, not enhance, the desired function of each device. Of course, to pick and choose any one feature from among the many teachings of *Green* when modifying *Dragan* would clearly constitute hindsight, which is impermissible when rejecting claims.

Moreover, picking only so much of *Green* as is needed to construct a rejection of the claims, while ignoring other teachings of *Green* that lead away from the combination, is improper. See *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) (A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention). For example, the fact that *Green* teaches wool-like tufted fibers instead of the straight fibers of *Dragan* would motivate against the combination since tufted fibers of the type disclosed in *Green* would likely yield a device that is too bulky to fit into the extremely narrow passage of a root canal.

IV. THE OFFICE ACTION FAILS TO STATE A PRIMA FACIA CASE OF OBVIOUSNESS RELATIVE TO CLAIMS 1-11, 13-19, 21-24 AND 26-43 WHEN REJECTING THE CLAIMS OVER DRAGAN, GREEN AND BUZZI BECAUSE IT FAILS TO SHOW WHERE EVERY CLAIM ELEMENT IS TAUGHT OR SUGGESTED IN THE PRIOR ART

A. The Office Action Fails To Show Where the Combined Teachings of *Dragan*, *Green* and *Buzzi* Teach or Suggest that the Distance “D” is at Least Three Times Greater than the Length “L” as Claimed

As discussed above, the combined teachings of *Dragan* and *Green* neither teach nor suggest a dental delivery tool in which “the distance ‘D’ is at least three times greater than the length ‘L’”, as recited in the independent claims. The Office Action admits that *Dragan* fails to teach or suggest any such ratio. *Green*, on the other hand, discloses a device that lacks any structure corresponding to the claimed “rim” feature and therefore cannot provide any reference point from which the distance “D” and length “L” can be measured. As a result, the relationship between the distance “D” and the length “L” cannot be ascertained when viewing the device shown in Figure 2 of *Green*. Because of this, the combined teachings of *Dragan* and *Green* neither teach nor suggest a delivery tool in which “the distance ‘D’ is at least three times greater than the length ‘L’”.

The Office Action does not even allege that *Buzzi* discloses a ratio of distance “D” and length “L”. Nor could it since the solid toothpick-like device of *Buzzi* includes no hollow body, exit orifice or rim from which a distance “D” or length “L” could be measured in the first instance. For this reason alone, the Office Action fails to state a *prima facie* obviousness

rejection of claims 1-11, 13-19, 21-24 and 26-43 over the combination of *Dragan*, *Green* and *Buzzi*.

V. **THE OFFICE ACTION FAILS TO STATE A PRIMA FACIE CASE OF OBVIOUSNESS RELATIVE TO CLAIMS 1-11, 13-19, 21-24 AND 26-43 BECAUSE IT FAILS TO PROVIDE ANY TEACHING OR SUGGESTION IN THE ART THAT WOULD HAVE MOTIVATED ONE OF SKILL IN THE ART TO COMBINE DRAGAN, GREEN AND BUZZI**

As discussed above, the Office Action provides no cogent basis for combining *Dragan* and *Green*. Instead, it is hard to see why one of skill in the art would combine the features of the interproximal brush device of *Green* with those of the “endodontic irrigator” of *Dragan* relied on by the Office Action to reject the claims. The two devices provide entirely different functions and have very different structural features to carry out their respective functions. Picking only so much of *Green* as is needed to construct a rejection of the claims, while ignoring other teachings of *Green* that lead away from the combination, is improper and is strong evidence that the examiner has engaged in improper hindsight.

Apart from *Dragan* and *Green*, which disclose quite different, and largely incompatible, devices, *Buzzi* is even further remote from either *Dragan* or *Green*. Whereas *Dragan* and *Green* disclose devices that are hollow and useful for passing a composition therethrough, *Buzzi* discloses solid “dental cleaners in the nature of toothpicks”. Col. 1, ll. 5-6. The purpose of the hollow “endodontic irrigator” of *Dragan* is to deliver a fluid composition into a root canal of a tooth. The fibers on the *Dragan* device are used to spread the fluid composition within the root canal. The solid *Buzzi* device, on the other hand, is used to clean plaque from the teeth. Col. 1, ll. 17-18. There is no teaching or suggestion that fibers having the disclosed length and diameter values taught in *Buzzi* would be useful or effective in the “endodontic irrigator” of *Dragan*.

In short, because the devices disclosed in *Dragan* and *Buzzi* provide entirely different functions and have very different structural features to carry out their respective functions, Appellant submits that one of skill in the art would not have been motivated to modify the “endodontic irrigator” of *Dragan* according to any teaching in *Buzzi*. Moreover, the fact that the examiner picked and chose, from among the many teachings of *Buzzi*, the precise teaching regarding fiber length and diameter in order to reject the present claims is evidence that the examiner engaged in hindsight to make the rejection. If not for Appellant’s own disclosure, no

one would have consulted *Buzzi* when deciding how to improve upon the device disclosed in *Dragan*.

PRAYER FOR RELIEF

In view of the foregoing, Appellants respectfully request the Board to vacate the final rejection and order the Examiner to allow each of the claims on appeal.

CLAIMS APPENDIX

Begins after the signature page.

EVIDENCE APPENDIX

None. No evidence under 37 C.F.R. §§ 1.130-1.132 is being submitted, nor was any extrinsic evidence relied upon by the Examiner in rejecting the claims.

Dated this 9th day of September 2005.

Respectfully submitted,



JOHN M. GYNN
Registration No. 36,153
Attorney for Applicant
Customer No. 022913

JMG:sp

W:\15268\1\JMG0000000392V001.doc



CLAIMS APPENDIX

(Amended) A dental delivery tool sized and configured for delivery of a dental composition into a dental preparation, comprising:

a hollow body configured to deliver a dental composition therefrom, the hollow body having a proximal receiving end, a distal delivery end terminating with an exit orifice and a rim that surrounds the exit orifice, and a passageway communicating therebetween, the hollow body having a body wall extending between the rim at the distal delivery end and the proximal receiving end, the rim being oriented laterally relative to the body wall; and

a plurality of fibers coupled to at least a portion of the hollow body, said fibers having first ends coupled to the hollow body and second ends extending laterally away from the hollow body;

wherein the fibers have a length in a range of about 0.2 mm to about 5 mm and a diameter in a range of about 1 Denier to about 15 Denier;

wherein a portion of the fibers extend a length "L" distally beyond the rim of the hollow body;

wherein length "L" is in a range of about 0.2 mm to about 5 mm;

wherein a portion of the fibers are coupled along the body wall a distance "D" proximally with respect to the rim; and

wherein the distance "D" is at least about three times greater than the length "L".

2. (Amended) A dental delivery tool as recited in claim 1, wherein at least a portion of the fibers extending the length "L" distally beyond the rim of the hollow body are coupled to the rim of the hollow body so as to extend laterally away from the rim.

3. (Original) A dental delivery tool as recited in claim 2, wherein at least a portion of the fibers coupled to the rim extend substantially perpendicularly from a face of the rim.

4. (Original) A dental delivery tool as recited in claim 1, wherein at least a portion of the fibers coupled along the wall of the hollow body extend substantially perpendicularly from the wall.

5. (Original) A dental delivery tool as recited in claim 1, wherein the delivery tool comprises a delivery tip.

6. (Amended) A dental delivery tool as recited in claim 5, wherein the delivery tip is adapted for attachment to a syringe.

7. (Amended) A dental delivery tool as recited in claim 1, wherein the delivery tool comprises an endodontic irrigator having a diameter so as to fit within a root canal of a tooth.

8. (Original) A dental delivery tool as recited in claim 1, wherein the delivery tool comprises a dental applicator.

9. (Original) A dental delivery tool as recited in claim 1, wherein at least a portion of the hollow body is curved.

10. (Original) A dental delivery tool as recited in claim 1, wherein at least a portion of the hollow body is rigid.

11. (Original) A dental delivery tool as recited in claim 1, wherein the fibers are deposited onto the hollow body by electrostatic flocking.

12. (Cancelled) A dental delivery tool as recited in claim 1, wherein the distance "D" is at least about three times greater than the length "L".

13. (Original) A dental delivery tool as recited in claim 1, wherein the distance "D" is at least about four times greater than the length "L".

14. (Original) A dental delivery tool as recited in claim 1, wherein the distance "D" is at least about five times greater than the length "L".

15. (Amended) A dental delivery tool sized and configured for delivery of a dental composition into a dental preparation, comprising:

- a hollow body configured to deliver a dental composition therefrom, the hollow body having a proximal receiving end, a distal delivery end terminating with an exit orifice and a rim that surrounds the exit orifice, and a passageway communicating therebetween, the hollow body having a body wall extending between the rim at the distal delivery end and the proximal receiving end, the rim being oriented laterally relative to the body wall; and

- a plurality of fibers coupled to at least a portion of the hollow body, said fibers having first ends coupled to the hollow body and second ends extending laterally away from the hollow body;

- wherein the fibers have a length in a range of about 0.3 mm to about 5 mm and a diameter in a range of about 3 Denier to about 75 Denier;

- wherein a portion of the fibers extend a length "L" distally beyond the rim of the hollow body;

- wherein length "L" is in a range of about 0.3 mm to about 5 mm;

- wherein a portion of the fibers are coupled along the body wall a distance "D" proximally with respect to the rim; and

- wherein the distance "D" is at least about three times greater than the length "L".

16. (Original) A dental delivery tool as recited in claim 15, wherein at least a portion of the fibers extending the length "L" distally beyond the rim of the hollow body extend substantially perpendicularly from a face of the rim.

17. (Original) A dental delivery tool as recited in claim 15, wherein at least a portion of the fibers coupled along the wall of the hollow body extend substantially perpendicularly from the wall.

18. (Original) A dental delivery tool as recited in claim 15, further comprising coupling means for coupling the hollow body to a syringe.

19. (Original) A dental delivery tool as recited in claim 15, wherein the fibers are deposited onto the hollow body by electrostatic flocking.

20. (Cancelled) A dental delivery tool as recited in claim 15, wherein the distance "D" is at least about three times greater than the length "L".

21. (Original) A dental delivery tool as recited in claim 15, wherein the distance "D" is at least about four times greater than the length "L".

22. (Original) A dental delivery tool as recited in claim 15, wherein the distance "D" is at least about five times greater than the length "L".

23. (Amended) A method for manufacturing a dental delivery tool sized and configured for delivery of a dental composition to a dental preparation, the method comprising:

providing an elongate hollow body configured for delivery of a dental composition therefrom, the elongate hollow body having a proximal receiving end, a distal delivery end terminating with an exit orifice and a rim that surrounds the exit orifice, and a passageway communicating therebetween, the hollow body having a body wall extending between the rim at the distal delivery end and the proximal receiving end, the rim being oriented laterally relative to the body wall; and

coupling a plurality of fibers onto at least a portion of the elongate hollow body in a manner so that a portion of the fibers extend a length "L" distally beyond the rim of the

hollow body and a portion of the fibers are coupled along the body wall a distance "D" proximally with respect to the rim, and so that first ends of the fibers are coupled to the hollow body and second ends of the fibers extend laterally away from the hollow body, wherein the fibers have a length of at least about 0.3 mm and a diameter of at least about 1 Denier;
wherein the length "L" is at least about 0.3 mm;
wherein the distance "D" is at least about three times greater than the length "L".

24. (Amended) A method as recited in claim 23, wherein the fibers are deposited onto the hollow body through electrostatic flocking.

25. (Cancelled) A method as recited in claim 23, wherein the distance "D" is at least about three times greater than the length "L".

26. (Amended) A method as recited in claim 23, wherein the distance "D" is at least about four times greater than the length "L".

27. (Amended) A method as recited in claim 23, wherein the distance "D" is at least about five times greater than the length "L".

28. (Amended) A dental delivery tool as recited in claim 1, wherein the distance "D" is at least about 6 times greater than the length "L".

29. (Amended) A dental delivery tool as recited in claim 1, wherein the distance "D" is at least about 7 times greater than the length "L".

30. (Amended) A dental delivery tool as recited in claim 1, wherein the distance "D" is at least about 8 times greater than the length "L".

31. (Amended) A dental delivery tool as recited in claim 1, wherein the distance "D" is at least about 9 times greater than the length "L".

32. (Amended) A dental delivery tool as recited in claim 1, wherein the distance "D" is at least about 10 times greater than the length "L".

33. (Amended) A dental delivery tool as recited in claim 15, wherein the distance "D" is at least about 6 times greater than the length "L".

34. (Amended) A dental delivery tool as recited in claim 15, wherein the distance "D" is at least about 7 times greater than the length "L".

35. (Amended) A dental delivery tool as recited in claim 15, wherein the distance "D" is at least about 8 times greater than the length "L".

36. (Amended) A dental delivery tool as recited in claim 15, wherein the distance "D" is at least about 9 times greater than the length "L".

37. (Amended) A dental delivery tool as recited in claim 15, wherein the distance "D" is at least about 10 times greater than the length "L".

38. (Amended) A method as recited in claim 23, wherein the distance "D" is at least about 6 times greater than the length "L".

39. (Amended) A method as recited in claim 23, wherein the distance "D" is at least about 7 times greater than the length "L".

40. (Amended) A method as recited in claim 23, wherein the distance "D" is at least about 8 times greater than the length "L".

41. (Amended) A method as recited in claim 23, wherein the distance "D" is at least about 9 times greater than the length "L".

42. (Amended) A method as recited in claim 23, wherein the distance "D" is at least about 10 times greater than the length "L".

43. (Amended) A dental delivery tool sized and configured for delivery of a dental composition into a dental preparation, comprising:

- a hollow body configured to deliver a dental composition therefrom, the hollow body having a proximal receiving end, a distal delivery end terminating with an exit orifice and a rim that surrounds the exit orifice, and a passageway communicating therebetween, the hollow body having a body wall extending between the rim at the distal delivery end and the proximal receiving end, the rim being oriented laterally relative to the body wall, at least a portion of the hollow body being rigid; and

- a plurality of fibers coupled to at least a portion of the hollow body;

- wherein the fibers have a length of at least about 0.2 mm and a diameter of at least about 1 Denier;

- wherein a portion of the fibers extend a length "L" distally beyond the rim of the hollow body;

- wherein the length "L" is at least about 0.2 mm;

- wherein a portion of the fibers are coupled along the wall a distance "D" proximally with respect to the rim,

- wherein at least a portion of the fibers coupled along the wall of the hollow body

extend substantially perpendicularly from the wall; and

wherein the distance "D" is at least about three times greater than the length "L".

W:\7678\545.2\JMG0000000727V001.DOC